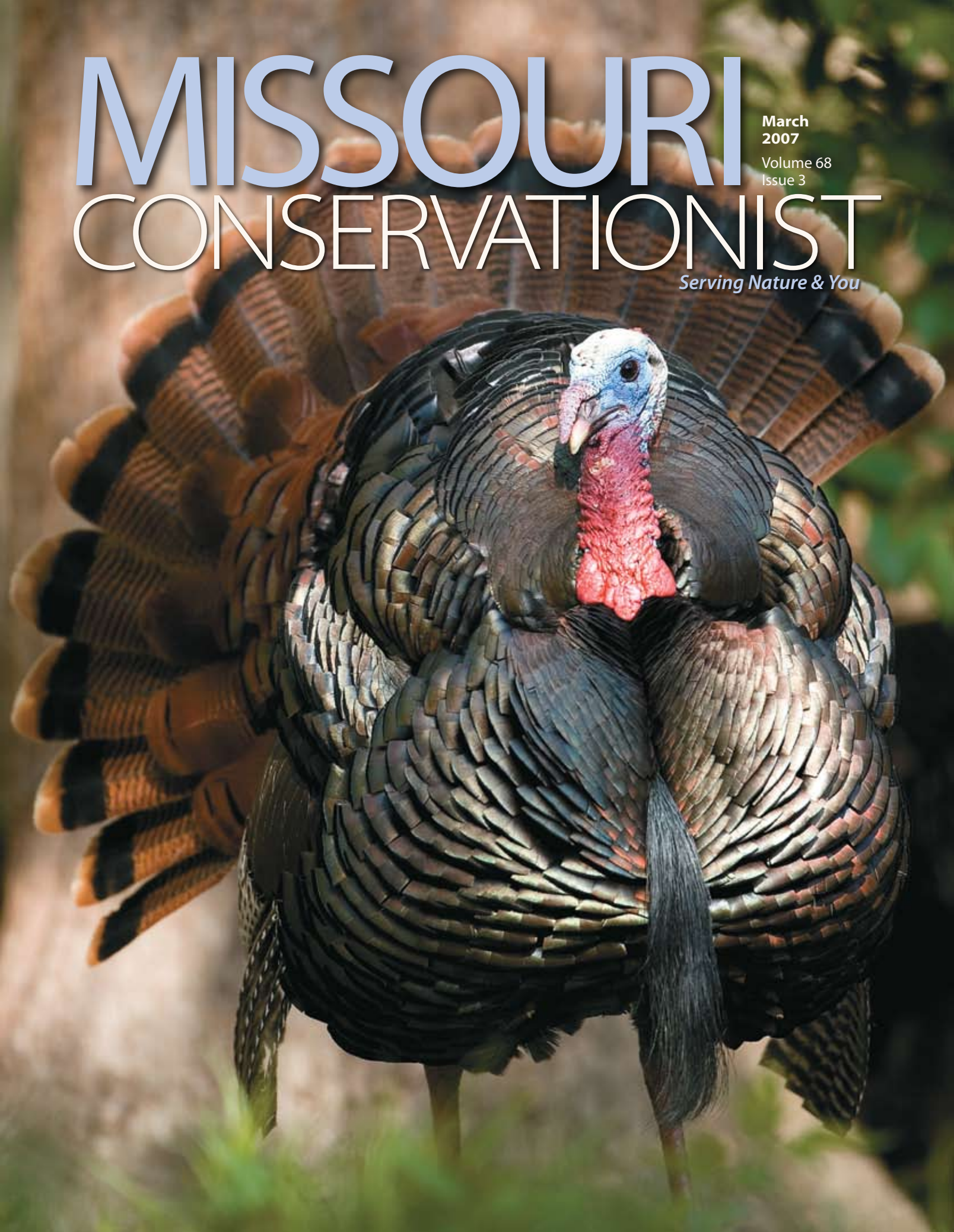


MISSOURI CONSERVATIONIST

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Serving Nature & You



Vantage Point

Looking Through a Different Lens

Recently, my grandson, Sterling, and I spent an afternoon taking photos in the woods behind the house. During our “photo safari,” I noticed that he was not focused on the same things I was. When I downloaded his photos, I was struck by his different perspectives. He shot at different angles, at different subjects and was not focused on detail as much as he was the wide-angle.

During our afternoon field trip, he pointed out deer scrapes and buck rubs, got his feet wet investigating the edge of the pond and had me stop in my tracks to listen to Canada geese. During the same outing, however, he also described how I could survive if lost in the Amazon—the result of his watching a cable TV program.

My personal background involves parents who grew up with two-row corn pickers and milked cows by hand. I hunted and fished with my dad, spent weekends at my grandfather’s farm and trapped muskrats to pay for college. In contrast, my grandson lives in a condo, walks across the street to school and plays computer games.

Changes in generational perspectives signal important changes in the future of conservation in Missouri. Undoubtedly, hunting and fishing will continue to be important to many Missourians. However, the proportion of the state’s population that hunts or fishes might be lower than in the past.

Information from the Department’s database on hunting and fishing permits points to potentially dramatic demographic changes on the horizon. The baby boomers, who comprise a substantial proportion of the traditional support for conservation, are aging. Our traditional hunting and angling cohorts, who now are middle-aged or older, are not being replaced by younger participants at the same rate they were “recruited” years ago. For example, the number of resident firearms deer hunters has dropped by 22,000 during the last five years despite tremendous increases in youth participation. Projections through the next few decades show a loss of more than 110,000 resident firearms deer hunters, 200,000 anglers and 130,000 small-game hunters.

Where will the concern and support for the condition of Missouri’s natural resources come from in the next few decades? The Department, along with our conservation partners, is actively looking for ways to engage traditional stakeholders—hunters and anglers. At the same time, we are seeking to provide greater opportunities



Dale Humburg and grandson, Sterling

for Missourians to connect with conservation in their communities, promote conservation on private land and enjoy outdoor recreation on conservation areas—interests that are not necessarily hunting and fishing related. Ensuring clean and healthy waters, forests and functioning natural communities will require broad-based and passionate conservation advocacy.

My grandson and I have had some early, and what I believe might become formative, experiences. His first crappie in the boat was exclaimed to be “awesome.” We spent two days late last duck season calling flock after flock of mallards into the decoys. We shared a fire in the evening and watched the moon rise, satellites pass overhead and a couple of spectacular meteorites leave trails halfway across the night sky.

I’m not sure that my grandson will be an avid hunter or angler when he gets older, though I hope so; I could use the help putting out decoys! He’s been exposed to duck boats, tree stands and crankbaits. But he also has an emerging appreciation for campfires, binoculars, telephoto lenses and feeding winter birds.

I have two clear challenges here—actually, I believe they are obligations. First, as a mentor, to provide an opportunity for my grandson to appreciate, understand and support Missouri’s conservation heritage. Second, as someone who shares responsibility for the changing face of conservation, to take time to focus through his lens and appreciate, understand and support the next generation of conservationists.

Dale Humburg, resource science division chief



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Reflections

HOT TOPIC

Excellent article [*Home Heating*; January 2007]! We have a fire almost every night when the temperature dips below 40 degrees. We burn red oak, white oak and locust.

On page 15 in this article, you list elm under woods with the lowest energy content. In the chart on page 17, elm is listed as having the highest BTUs per cord. I'm confused. Could you straighten me out on which is correct?

Dick Thorsen, Bevier

Editor's note: The chart of "Heat Values of Various Woods" from page 17 should have listed elm as producing 21.4 million BTUs per cord. We regret any confusion this may have caused our readers.

Thanks for all of the great articles and pictures! I was reading the recent fire-

wood article. Question; we lost a couple of river birch trees to the ice storms. Are they good for campfires, or should I let the city take them away?

Keith E. Prokop, via Internet

Editor's note: "River birch will burn OK if you let it season for about six months," says John Tuttle, forest products program supervisor. "I would go ahead and cut it up this spring and then burn it next winter."

Thanks so much for your fine article on home heating. We heat entirely with wood and have done so for many years. But when we built our small home a few years back, we also installed base-board electric heat as well as central heat in the A-coil of our AC unit. By the way, neither alternative heat has EVER been turned on, which seems like a waste, but at least I'll have heat avail-

able when I'm too old to cut wood.

Heating with wood over the years has certainly saved us an enormous amount of money. We heat with an extremely efficient Country Flame wood stove.

I own and live on 400 acres of timber, which I refer to as an unlimited supply of utilities. I rarely cut a good quality live tree. On the contrary, I search through my forest for large trees which have recently died or good trees that have blown over at the roots from high winds. I have never been unsuccessful as yet to find a couple of these cull trees every year.

One final thought for your readers: Always make sure to have the proper equipment such as, but not limited to, ear, eye and head protection, a good sharp chain saw and leather chaps. And if one feels uncomfortable in felling trees, especially large ones, it is best to contact a timber cutter or friend who is accomplished at cutting timber.

Robert Freund, via Internet

REGULATIONS UPDATE

The Web site for the Missouri Register listed on page 27 of the February issue, in *Regulations Reflect Missourians' Conservation Commitment*, has been updated by the office of the secretary of state to: www.sos.mo.gov/adrules/moreg/moreg.asp.

SNOWBIRDS

Lately I have been seeing robins in my backyard. I don't remember that happening in the winter before. Last month I had several and today there's one in my yard. Is this normal?

Janet L. Ehnen, Trimble

Editor's note: "Robins spend the winter in Missouri every year," says Brad Jacobs, Department of Conservation ornithologist. "They usually stay close to the cedars that blanket some areas of Missouri, where they feed on the blue fruits of the cedar trees."



SQUIRRELY-LOOKING CRITTER

Albino animals have not inherited the genes for normal coloration from their parents. Their cells do not produce melanin, the pigment that gives color to skin, scales, eyes and hair. This lack of pigment makes an animal appear white, pink or partially bleached, as with this partial-albino fox squirrel. For more information on albinism, read *All About Albinism* by John D. Miller at www.missouriconservation.org/conmag/2005/06/10.htm. Ric Christianson submitted this photo, which he took at his stepfather's home in Independence.

This winter, because the ground was not frozen until recently, many more robins than usual lingered in Missouri. They normally would have moved farther south. During the last weeks or so of cold, icy weather, many of the holly and other fruit-bearing shrubs and trees have been host to

large flocks of robins. They devour the fruits in a few days before moving on to the next fruit tree. Most winters, if you visit some of the extensive overgrown pastures and glades where cedars have grown up, you will find robins. Sometimes, nighttime roosts may contain a million birds or more."

The letters printed here reflect readers' opinions about the Conservationist and its contents. Space limitations prevent us from printing all letters, but we welcome signed comments from our readers. Letters may be edited for length and clarity.

Ask the Ombudsman



Q: What makes these piles of stones on the creek bottom? The piles are 1 1/2 to 2 feet in diameter and up to 2 or 3 inches high in the middle. The stones are mostly the same size. I've seen them while wading in Bryant Creek near our home.

A: According to a coworker in Fisheries, "It sounds like these nests were created by the hornyhead chub. Stonerollers also build a nest, but they dig a small trench in very shallow water during their spawning times."

Different species of fish use a variety of spawning methods. Some nest in the open, some nest in cavities and others just broadcast their eggs in open water.

Other nesters don't get as elaborate as the hornyhead chub or the stoneroller. Sunfish, bass and goggle-eye fan out bare spots in gravel for a simple nest site. Catfish are generally cavity nesters and prefer hollow logs, large rock rubble, root wads, etc. in which to lay eggs. Catfish (usually males) will guard their nests from predators and fan eggs laid in cavities to keep them oxygenated and free of sediment. White bass, paddlefish, walleye and suckers spawn in open water, usually where a riffle of moving water takes care of cleaning sediment from the eggs.

Another interesting point about fish spawning shared by Fisheries staff is that bluegill are multiple spawners—up to nine times each season under ideal conditions. Fish in the best condition tend to spawn more. This capability is the reason why bluegill are so important—their offspring are available throughout the growing season as forage for other fish. For more information on bluegill, visit www.missouriconservation.org/fish/sport/bluegill/mobbluegill.htm.

To learn more about local fish species, see Dr. William Pflieger's *Fishes of Missouri*. This book is available for \$17 plus shipping and handling, and sales tax (where applicable). To order, call toll free 877/521-8632 or visit online at www.mdcnatureshop.com. It is also available from Department of Conservation regional offices and nature centers.

Ombudsman Ken Drenon will respond to your questions, suggestions or complaints concerning Department of Conservation programs. Write him at P.O. Box 180, Jefferson City, MO 65102-0180, call him at 573/522-4115, ext. 3848, or e-mail him at Ken.Drenon@mdc.mo.gov.

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A close-up photograph of a metallic green longhorn beetle (Cerambycidae) resting on a green leaf. The beetle's body is covered in a fine, granular texture that gives it a shimmering, iridescent appearance. Its long, segmented antennae are visible, extending from its head. The background is a soft-focus green leaf, providing a naturalistic setting for the insect.

Hitchhiking BUGS

Tree-killing insects spread
by taking advantage
of free rides.

by Rob Lawrence



More than 20 million ash trees have died in the Midwest. They were killed by a half-inch-long, metallic-green beetle that tunnels underneath bark. The **emerald ash borer**, a beetle native to Asia, threatens to completely remove ash trees from U.S. forests.

EMERALD ASH BORER (ACTUAL SIZE) - STEVEN KATOVICH, USDA FOREST SERVICE, WWW.FORESTRYIMAGES.ORG



USDA APHIS PPO ARCHIVES, WWW.FORESTRYIMAGES.ORG

USDA port inspector examines wood crating for pests in international cargo.

This is not the first time our forests have been devastated. During the early 1900s, chestnut blight ravaged our forests by killing almost every chestnut tree, and in recent decades, Dutch elm disease has caused the widespread death of elms.

The emerald ash borer is only one example of many non-native insects that have invaded North American forests. These invasive species are efficient hitchhikers on a variety of wood packing and other plant materials. Increasing international trade has provided more opportunities for non-native insects to travel to places where they've never existed before.

On Its Way

The emerald ash borer was first detected in the U.S. in 2002 when large numbers of ash trees began dying in southeastern Michigan. The beetle had arrived several years before, probably by hitchhiking within wood crating or other wood materials in a shipment from Asia.

By the time the infestation was discovered, it was already too late to contain it. The beetle had spread across Michigan's Lower Peninsula and into Indiana, Ohio and Ontario.

More recently, populations have been found near Chicago and in Maryland. In southeastern Michigan, where nearly all ash trees have been killed, communities and homeowners are struggling to deal with the costs of removing the many hazardous standing dead trees.

These beetles continue to spread across the Midwest. Humans unknowingly transport emerald ash borers when they haul infested ash logs, firewood or nursery stock, because the insects spend much of their lives hidden beneath ash bark.

The beetle's worm-like larvae feed just under the bark and create wandering S-shaped tunnels that disrupt the flow of water and nutrients within the tree. When large numbers of larvae are present, they completely

girdle and kill trees within one to three years. All ash trees—from small to large—are susceptible, even healthy ones.

Missouri's Ashes at Risk

Ashes, including white ash, green ash, blue ash and pumpkin ash, comprise about 3 percent of the trees in Missouri's rural forests, and about 13 percent of the trees in our urban forests. In some places, they comprise as much as 30 percent of park and street trees. Cultivars of white and green ash are among the most commonly planted trees in urban landscapes.

Even before the emerald ash borer arrived, ash trees in the Midwest were battling native pests. It is common to see ash trees with symptoms of ash yellows (a disease) or ash decline, a condition caused by a variety of diseases or other stresses. Native wood-boring insects frequently attack ash trees stressed by injury, transplanting, soil compaction or poor tree location. All of these problems can result in branch dieback, sparse leaves and gradual decline of tree health over several years.

Because of these ongoing problems, it's not easy to know if a tree has been attacked by the emerald ash borer. One of the most distinctive clues to look for is a 1/8-inch diameter, D-shaped hole in the bark that the adult emerald ash borer creates when it exits a tree.

Pathways for Invaders

Once an invasive insect species gains a foothold in North America, it can move by many pathways across the continent. Emerald ash borers traveled in firewood from Detroit to recreation sites throughout Michigan and nearby states. They hitchhiked in logs transported to sawmills and in nursery stock shipped from Michigan to Maryland.

Asian longhorned beetles, another non-native wood borer, traveled in firewood from infested trees cut down in Brooklyn to uninfested forests on Long Island.

Gypsy moths, which defoliate oaks, temporarily established themselves in northwestern Arkansas in the early 1990s, possibly after hitchhiking from the northeastern U.S. as egg masses attached to recreational vehicles. Aggressive action by state and federal authorities eradicated the gypsy moth population in Arkansas, but the infested area of the northeastern U.S. continues expanding westward and will eventually reach Missouri.

Asian longhorned beetle populations have been nearly eradicated in Chicago, and eradication efforts continue against populations in New York, New Jersey



NOPPADOL PAOTHONG

Is It Emerald Ash Borer?

QUESTION 1:

Is the tree an ash species?

- Emerald ash borers only attack ash trees.
- For help identifying ash trees visit www.emeraldashborer.info/identifyashtree.cfm or you can purchase the *Trees of Missouri Field Guide*. The book includes easy-to-understand descriptions and color illustrations for 147 native and 27 non-native tree species found in Missouri. This item is available for \$7.50 plus shipping and handling, and sales tax (where applicable). To order, call toll free 877/521-8632 or visit www.mdcnatureshop.com.

QUESTION 2:

Is the tree in poor health?

The following symptoms can be caused by native pests, emerald ash borers or other stresses:

- Branch dieback in upper crown
- Sparse leaves
- Splits in bark
- New sprouts on trunk or limbs

QUESTION 3:

Do you see any of the following?

- 1/2-inch-long, metallic-green, bullet-shaped beetles
- 1/8-inch-wide, D-shaped holes in bark
- Tapeworm-like larvae with bell-shaped segments under bark
- S-shaped larval tunnels under bark

It's NOT Emerald Ash Borer if you see:

- Round or oval holes in bark
- Brown papery insect "skins" in bark holes (clearwing moths)
- Round holes in rows on bark (yellowbellied sapsucker)
- Larval tunnels deep into wood or not S-shaped

Check these Web sites to be sure

- www.emeraldashborer.info
- www.missouriconservation.org/forest/features/firewood.htm



NOPPADOL PAOTHONG

Transporting firewood from other states to Missouri campgrounds could bring devastating new pests to our forests.

and Ontario. However, eradicating the emerald ash borer is very unlikely because of its wide distribution and the lack of effective means to detect and control it.

Insects are not the only forest pests that can be transported in firewood and other plant parts. Tree diseases such as oak wilt and Dutch elm disease can easily hitchhike, too, and are even more difficult to detect.

Protecting Our Forest Resources

New national and international regulations specify treatments for solid wood packing materials that will reduce the threat of hitchhiking pests in international trade. Incoming cargo is examined for potential pests at U.S. ports by federal inspectors, although only a small fraction can be inspected because of the huge volume.

Working together, the Missouri departments of Conservation and Agriculture, the U.S. Department of Agriculture and other agencies annually conduct surveys to detect new forest pests. Surveyors examine ash trees for evidence of the emerald ash borer at high-risk sites such as public and commercial campgrounds where campers bring in their own firewood. They also check ash trees in urban parks and streets, particularly where large numbers of ash trees have been planted since the mid-1990s. Nursery inspectors examine thousands of trees in Missouri's commercial nurseries each year.

When harmful non-native plant pests become established in the U.S., the U.S. Department of Agriculture Animal and Plant Health Inspection Service and state departments of Agriculture are responsible for quarantines and eradication activities.



ED CZERWINSKI, ONTARIO MINISTRY OF NATURAL RESOURCES, WWW.FORESTRYIMAGES.ORG



DAVID CAPPAERT, WWW.FORESTRYIMAGES.ORG



NOPPADOL PAOTHONG

Wandering S-shaped galleries (top) made by emerald ash borer larvae beneath the bark of an ash tree. A few D-shaped holes made by adults are visible near the top. Emerald ash borer larvae with distinctive bell-shaped segments (above left) tunneling within an ash tree. Emerald ash borer adult emerging from a distinctive D-shaped hole (above right), the most important sign for identifying the emerald ash borer.

A federal quarantine is now in place to limit the spread of emerald ash borers. All ash nursery stock, logs and wood with bark attached, and all deciduous firewood is prohibited from being transported out of Illinois, Indiana, Ohio and Michigan's Lower Peninsula, unless specific actions are taken to reduce the risk of the borers surviving in the ash material.

Operations to control isolated populations of emerald ash borers have been attempted at the edges of their known distribution. Treatments are expensive and involve cutting down all ash trees within an infested area and chipping them into one-inch pieces to destroy the borers and their food source. No insecticide treatments are 100 percent effective in eradicating an emerald ash borer population. Much research is underway to find better ways to detect and control emerald ash borers.

What You Can Do

Many state and federal agencies are working together to protect our forest resources from these insect

invaders, but they need your help. The most effective thing you can do to prevent the arrival of invasive forest pests is to avoid moving firewood long distances. Buying firewood from local sources supports local economies and reduces the threat of introducing new pests.

You can also help by keeping an eye open for new pests. The emerald ash borer has not yet been found in Missouri as of early 2007. But we need to be alert for its arrival. Areas where it is most likely to appear include campgrounds, homes or businesses receiving ash logs or firewood from outside Missouri, and residential or commercial sites where large quantities of ash were planted since the mid-1990s.

All of us working together can help keep the emerald ash borer and other invasive insects out of Missouri as long as possible. Reducing firewood movement and thinking about other ways that pests might hitchhike into our forests will go a long way toward preventing the arrival of the next new pest. ▲

Help Stop Invasive Bugs

- Do not bring firewood from other states. Use local sources.
- Examine vehicles and outdoor gear for gypsy moth egg masses after summer visits to Great Lakes states or the northeastern U.S. If you find egg masses, destroy them.
- Start replacing ash trees in urban landscapes with other tree species to avoid having to replace them all later at one time.
- Plant a diversity of trees and shrubs (no more than 10 percent of any one species).
- Use proper planting, mulching and pruning methods to improve plant health. See www.missouriconservation.org/forest/helpcare.htm.
- Do not use insecticides to prevent emerald ash borer attacks where borer populations have not been detected.
- If you find what you suspect is a non-native pest, contact your local Department of Conservation forester. See page 1 for regional office numbers, or go to www.missouriconservation.org/forest/myforester-search.html.



ROB LAWRENCE



JIM RATHER

Female gypsy moth with egg mass.



ROBERT A HAACK, USDA FOREST SERVICE, WWW.FORESTRYIMAGES.ORG

Asian longhorned beetle with tunnels made by larvae in host tree.



DAVID R LANCE, USDA APHIS PPQ, WWW.FORESTRYIMAGES.ORG

Adult female Sirex woodwasp.

Other Invasive Insects

Gypsy Moths

- Caterpillars feed on leaves of oaks and other woody plants and can kill trees during outbreaks.
- Velvety-brown egg masses (1 to 2 inches wide) can be deposited on vehicles, outdoor equipment, firewood and nursery stock in July and August.
- Species is spreading from Wisconsin, northern Illinois, Indiana, Ohio and northeastern U.S.

Asian Longhorned Beetles

- Larval tunneling in trunk and branches kills maples, elms and other deciduous trees.
- Species can spread when firewood and logs are taken from infested areas.
- They have entered North America multiple times in international shipments.

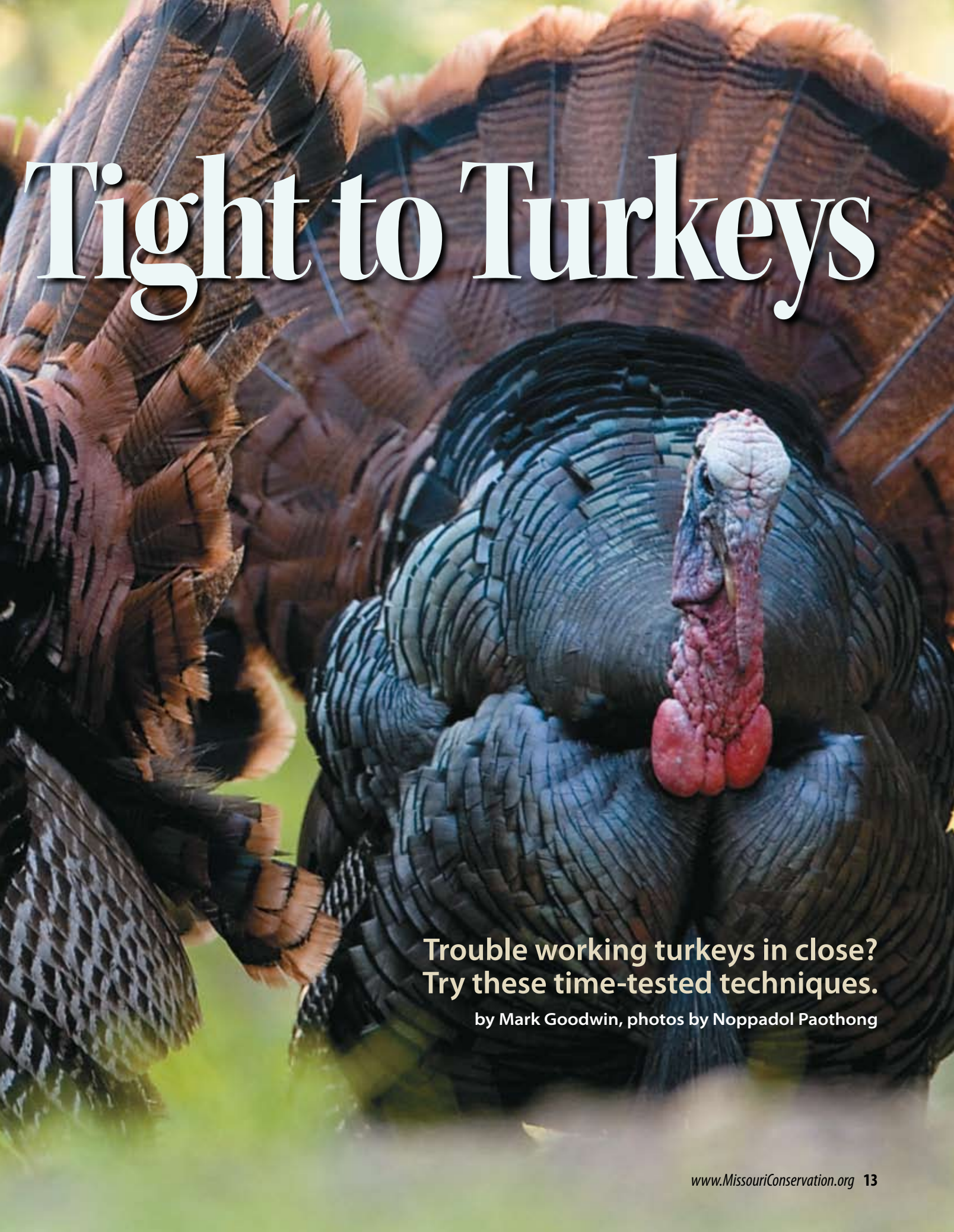
Sirex Woodwasps

- Female injects a fungus and toxic mucus that kill pines while her offspring tunnel in the wood.
- The species can be spread by moving infested logs.
- They are present in New York, Pennsylvania and Ontario, but the extent of their range is unknown.

For more information, see www.missouriconservation.org/forest/features/firewood.htm.

A close-up photograph of two male turkeys in a forest. The turkey in the foreground is in sharp focus, showing its blue head, red wattle, and large, iridescent tail feathers. The second turkey is slightly behind and to the left, also in focus. The background is a soft-focus forest scene with green foliage and tree trunks.

Getting



Tight to Turkeys

**Trouble working turkeys in close?
Try these time-tested techniques.**

by Mark Goodwin, photos by Noppadol Paothong



At 30 yards,

a majestic tom turkey crested the wooded ridge in front of me. He continued walking my way. At 15 yards, he stopped and stretched his neck to look. He was close enough that I could see his feathers ruffling in the slight breeze. I carefully aimed the 20-gauge Parker double-gun and applied pressure to the front trigger. As the old shotgun bucked against my shoulder, I knew I'd met half my season's limit.

I've hunted turkeys for close to three decades and have taken birds out to 40 and 50 yards with specialty shotguns coupled with shot shells loaded specifically for hunting turkeys. Tagging turkeys at those ranges, however, is not nearly as exciting as working a turkey to within 25 yards or closer.

That's why I often hunt with my great, great grandfather's Parker. With 2 3/4-inch chambers, barrels choked full and shells loaded with an ounce of 7 1/2 shot, the old shotgun does a fine job of tagging turkeys out to 30


yards, forcing me to work the turkeys in close. Here's what hunting with shotguns with limited range has taught me about getting tight to turkeys.

Scout Early

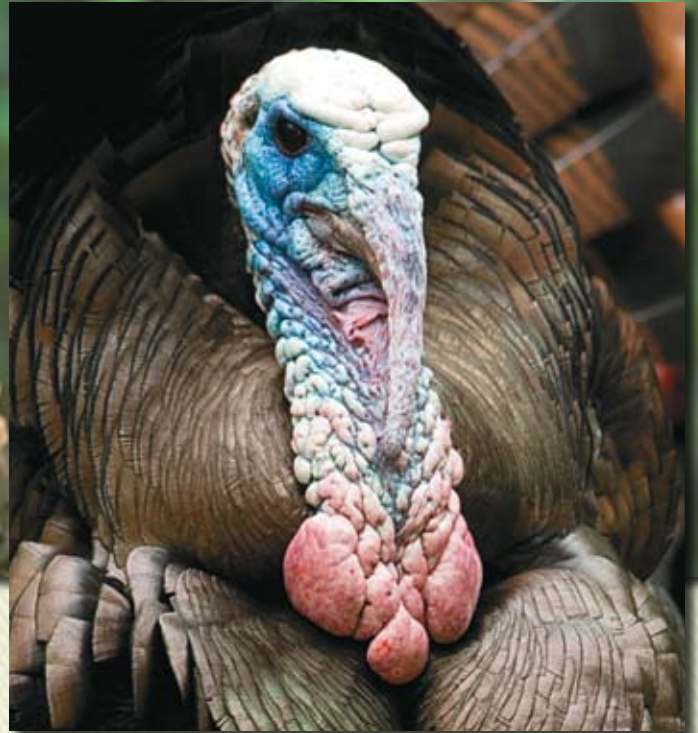
Turkeys are creatures of habit. They have favorite roosting areas, loafing areas, feeding areas and, in spring, places where they go to breed. They also have preferred routes they use to get to these places. If a hunter learns these patterns in his turkey-hunting area and sets up accordingly, calling in turkeys becomes far easier.

Learning the daily patterns of turkeys in an area requires scouting. Scout a week or two before the hunting season opens. Turkey habits change with the change of seasons. Scouting close to the hunting season increases the likelihood that what you see during scouting will be what you see while hunting.

Scouting for turkeys in spring is made a little easier by toms gobbling and giving away their location. For a clear idea as to what toms will be doing when the hunt-



The slightest movement will alert a turkey to your presence, so camouflage and silence are critical to a successful hunt.



ing season starts, scout the week before season, three or four days in a row, before first light.

Calling before season is fun, but it can pull toms off their regular patterns, giving a false picture concerning their habits. Calling to toms before the season also risks spooking the toms, which makes calling them in during the season even tougher.

Missouri's fall turkey season opens October 1st, which makes the last week or two of September a good time to scout. Get to the timber before first light. Listen for turkeys as they call from the roost before flying down to feed. If you hear turkeys calling from the roost, don't call to them. See which way they pitch out and where they go to feed.

If you hear no turkeys, walk the woods and fields. Look for droppings and shed feathers. After feeding, turkeys often move to areas where field and woods meet. There they loaf and dust. Check for slight, circular depressions in the ground, 2 feet or so in diameter, which turkeys often make when they dust.

Set up Wisely

Once you determine the daily patterns of turkeys, the next step is deciding where, in relation to these patterns, to set up to call. The key is a set-up that will counter the number one defense of turkeys: their superb eyesight. It's because of the peerless vision of turkeys that many hunters clothe themselves from head to toe in camouflage and hunt from manufactured ground blinds.

Such gear helps, but the best way to keep the turkey from spotting you is to call from positions just above or below a rise in a hill or around a bend in the terrain. Arrange it so that when a turkey first steps into view—or can see you—it is in range to shoot. A veteran turkey hunter shared this amazingly effective strategy with me more than 25 years ago.

Stay Concealed

Even though your set-up forces a turkey to come in blind, you still want to remain unnoticed. Portable blinds are great, but you can construct your own blind on the spot by clipping a few leafy branches and sticking them in the ground around you. Leave room for your shotgun to move, and leave some spaces to shoot through.

Though turkeys are unrivaled at picking up motion, they have limited depth perception. A big tree at your back and a screen of cut limbs in front make it tougher for turkeys to see you. It's also a good idea to place yourself in the shadows. Setting up with full sun shining on you makes it easier for a turkey to spot you.

Call Sparingly

Loud, frequent calling will sometimes call toms into close shotgun range. However, most of the time such calling results in a gobbler holding up at a distance and waiting for the hen to come to him. Sparse calling typically works best in spring. Get a tom to answer you, then go silent and wait for the tom to come looking for "the hen" he heard.

Turkeys use clucks to check the location of other

turkeys, maybe more so than any other call. If you cluck, and a turkey answers back, that may be all the calling you need. Turkeys have phenomenal abilities to pinpoint the location of sounds. One cluck, under good hearing conditions, will let a turkey know where you are.

A good rule of thumb for calling turkeys in the fall, if no turkeys are calling, is to start with soft clucks and purrs. If these get no answer, increase volume and use other calls to get a response.

If you have scattered a flock in the fall, and turkeys are calling frequently to reassemble, imitate their calling pattern by calling frequently.

Sit Still

Sitting still seems easy, but some hunters have a hard time understanding exactly how still they have to be. While sitting, don't turn your head, don't scratch an ear, don't raise your hand. When a turkey is in view, you can move nothing.

Only move when the turkey can't see you. Let's say you see a gobbler standing nearby, but he's wary and slowly walking away from you. If the tom steps behind a tree, make a quick move and be ready to shoot when he steps out. If there's no obstacle to cover your move, let the turkey win. You might manage a shot, but the chances of crippling the bird and losing it are too great.

If you are calling a tom and he is gobbling back but moving away, you may need to circle around and try to get in front of the bird. Use foliage and the terrain, such as hills and draws, to screen your movements from the turkey.

Anytime you are up and moving during a turkey hunt, wear hunter orange for safety. Put a hunter orange cap or vest on and make your move.

Hunt Often

Your goal is to get a turkey to approach close so you can tag it with a clean shot. The best way to improve your odds of tagging a turkey is to hunt often.

Even if a hunt lasts only 45 minutes or so before or after work, you've still improved your chances. Each outing also improves your knowledge about turkeys and your turkey hunting skills.

You'll gain other benefits, too. You'll create fine memories of beautiful days afield, you'll see wildlife and beautiful sunrises, you'll have stories to share with friends and family, and you'll experience that special sense of relaxation that comes over everyone who spends time hunting in the woods. ▲

Turkeys are adept at locating the source of calls. In the spring, sparse calling may be all you need to reel in a tom.



A young child with light skin and dark hair, wearing a white sun hat and a red and white striped shirt, is holding a large green leaf. The child is looking at the leaf with a focused expression. The background is a soft-focus outdoor scene with green foliage.

Curious Nature

Children learn best when
they engage all of their
senses, especially
when it comes
to nature.

by Colleen S. Scott,
photos by Cliff White



Imagine a young naturalist leading her first night hike. Setting out on the overgrown path she wonders, “What will we find tonight? Glow worms? Orb weavers? Bats?”

The Cub Scouts and their families wonder also, for they’ve never experienced a hike like this one. Little do they know what waits in the wooded darkness at the end of the old maintenance road.

Then, as might be expected in darkened woods, there’s a strange noise.

“What was that?” a child’s voice asks, as the naturalist feels a small trembling hand reach for hers. She listens, but she cannot be sure. It was a peculiar sound, yet somehow vaguely familiar. She realizes that she hasn’t heard that sound since childhood.

“I’m not sure,” she says, “I believe it’s a....”

“What do you mean you’re not sure?” squeaks the alarmed Scout. “You’re the animal lady! You’re supposed to know everything!”

The parents’ laughter bursts into the air. And, looking at their boys’ curious expressions, I have to laugh too. “I believe that little ‘cheet...cheet’ was a flying squirrel,” I tell them. “Let’s see if we hear it again.” Unfortunately, we didn’t hear another sound from that squirrel, but there was plenty more to see and hear that night.

Looking back on that hike, and on other programs I’ve been involved with, I am reminded how children are naturally curious. Curiosity in the very young (and the young-at-heart) is what most often motivates learning. Through a variety of experiences, we make observations and seek answers to questions. These, in turn, help us relate to and interpret the world around us.



In fact, today's technology is a direct reflection of our drive to learn about and interpret the natural world. There are exciting programs on cable and satellite TV with stations dedicated entirely to nature and science. The Internet provides access to huge stores of information from aardvarks to zebras. Libraries and book stores contain colorful, in-depth books geared for very young children.

While all of these sources support the learning process, this technology can cause the interpretive experience to take a back seat. Children learn so much about "the environment," but they are much further removed from their own natural environment than they've ever been. Building mud pies in the backyard and examining the creatures found there is a less-common pastime these days.

So, in this fast-paced and technological world, how do we provide our children with first-hand experiences that will help them understand their own environment?

There are a number of ways, depending on your family's interests and experiences. For example, your family may prefer birding to fishing, or canoeing rather than mushroom hunting. But, whatever your preferences, keeping the process simple is the key. The following guidelines will give you a good place to start.

Begin as soon as possible

Some people take their very young children on hiking, fishing or even camping trips. While some of you may be thinking, "Sure, I was only 4 months old on my first camping trip," others are sure to question this strategy.

Environmental educators constantly evaluate the learning process in order to understand what's developmentally appropriate for any given situation, group or individual. Parents and caregivers can do this as well. The best way to know what your child is ready for is to interact with him or her in your own yard as soon and as often as possible.

Young children may not yet be able to tell you what interests them. Still, by watching your baby's reaction to the outdoors, you'll get an idea of what he or she likes. Does he key in on bird sounds? Does she look intently at fall colors, or does she prefer jumping in a pile of leaves? How does he react to a caterpillar crawling on his hand? Observing your child in this way not only helps you understand how your child learns, the process provides opportunities to bond with your child.

Set no limits

Some parents seem to believe that every worthwhile outdoor experience must be hours (or even days) long. These activities generally include numerous pieces of equipment to be packed, unpacked, hauled, set up, taken down, repacked and... you get the picture. And that is just fine for them. I envy those who have the patience, time and resources to spend as they wish, but not everyone does.

Shorter outings can be just as beneficial. Take your child outside in your own backyard. For some youngsters, time spent outdoors should be kept short and sweet anyway. The key is that it takes only a few seconds for your child to feel the sunlight on her face, smell the locust tree blossoms or blow the dandelion seeds into your neighbor's yard.



Take your child outside in your own backyard. The key is that it only takes a few seconds for your child to feel the sunlight on her face.

Of course, there are days we can't spend outside. Having some "non-technological" items around the house can also provide a first-hand nature experience for the very young. Cardboard boxes or paper grocery bags can be cut, colored and used to transform the average preschooler into a box turtle. Foam insulation tubes, the kind that go around pipe, become insect "feelers" or antenna. Give your child an idea and encourage her imagination.

Think and relate like a child

Most adults have forgotten what it's like to think as children. When young children learn, they don't spend a lot of time thinking about it; they don't have the time. At this stage, energy for the learning process is focused all at once on physical, social, emotional and cognitive development.

No wonder your preschooler can wear you out. Respond accordingly. Allow your child to interpret the outdoors in his or her own way without your judgment. Of course you'll want to keep your child safe and most of the lawn intact, but your child's imagination usually needs only your guidance, not your direction.

For instance, my 4-year-old neighbor found a worm on the asphalt. She built a house for the worm using grass for the walls, a leaf for the roof, and a rock for the front yard. She went into great detail explaining that worms need to be comfortable and covered. (This is what she receives from her home.) I had to stop my "adult" mind from saying, "Worms are more comfortable when covered in dirt. In fact" Instead, I asked, "Where do worms live when we don't build houses for them?"

By allowing your child to relate in his or her own way to the outdoors, however incorrect it may seem, you can accomplish at least three things. First, your child is gently encouraged to take another look at his or her theory on the subject at hand. Second, your youngster sees learning as a positive experience. And third, the natural world remains a positive place to be.

Think in terms of what you can do

Along with the idea that humans relate what they learn to what they already know, many educators and psychologists support a hands-on approach to learning called Piaget's Constructivist Theory. Simply stated, young children "construct" knowledge by physically and mentally exploring their environment. If you subscribe to this theory, then you understand that your child will not fully appreciate her environment unless you allow her to be physical and use all five senses.



Some of you are probably thinking, "Are you crazy? What about poison ivy, venomous snakes, black widow spiders." Those fears are reasonable, but they can be tempered by familiarizing yourself with the environment. The outdoor experience provides so many more opportunities for positive rather than negative interactions.

There are many learning resources available. The Missouri Department of Conservation maintains a Web site full of articles and information at www.missouri-conservation.org. Free publications on fish, forest and wildlife resources native to Missouri are also available at nature centers and many Department offices. See page 1 for a listing of regional phone numbers.

Even better, visit a Department office, nature center or range on your own or for a program. Call your regional office or visit the Web site for local program offerings. There are interpretive and educational programs for all ages on a wide range of natural history and outdoor skills topics.

We'd love to help introduce your child to the outdoors and answer your questions. Or, when curious nature gets the best of your youngster and he impatiently asks, "What do you mean you don't know?" we can help you answer his question. ▲



Little Bourbeuse

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a Tale *of* Two Watersheds

Landowners are the key to successful conservation projects.

by Paul Calvert, Kenda Flores and Tom Priesendorf, photos by Cliff White

A watershed is defined as an area of land where all of the water that is below it, or that drains off of it, goes into the same place. Unfortunately, watershed management isn't quite that straightforward.

No two watersheds are alike, even those with similar shapes, drainage patterns, soils, geology, hydrology and land use. Human factors further complicate things. With 93 percent of Missouri's land in private ownership, landowner goals in particular are a critical factor in planning resource management.

Let's look at two watershed projects in Missouri that are melding resource concerns with landowner objectives to create successful projects. Brush Creek in southwest Missouri is already completed and meeting more than 80 percent of its project goals. The Little Bourbeuse River/Brush Creek project in east central Missouri is just getting started.



C. Dale and Emma Murphy, and Kenda Flores, next to hotwire fencing designed to keep livestock out of riparian corridors and streams. Flores, a fisheries management biologist, is assisting the Murphys in improving their part of the Little Bourbeuse watershed.

Brush Creek

Brush Creek is a mostly agricultural watershed that spans four southwest Missouri counties: Polk, Cedar, St. Clair and Hickory. Most of this 54,000-acre area is dedicated to livestock production.

In the summer of 1993, landowners and several agencies met to discuss their common interest in protecting the Brush Creek watershed. The result was the establishment of the Brush Creek EARTH Project. By July 1994, the project was approved and funding was committed to help landowners improve their farms while protecting Brush Creek watershed.

The Brush Creek EARTH Project brought together several partners with a common goal: to work with landowners in a voluntary spirit to improve and protect the land and water resources. The list of agency part-

ners included U.S. Fish and Wildlife Service, Natural Resources Conservation Service, Missouri Department of Natural Resources, four Soil and Water Conservation Districts, University Extension and the Missouri Department of Conservation. Landowners, however, were the key participants.

Landowners who participated in the EARTH project demonstrated that voluntary efforts could achieve significant conservation goals. They stabilized eroding banks, improved forested buffers and installed grass filters along streams. They also improved grazing rotations, overseeded pastures with legumes, fenced creeks and improved watering systems. More than 17,000 acres in the watershed were brought under improved conservation practices.

By protecting these critical areas along streams from excess nutrients and sediment, landowners improved the water quality of Brush Creek. Meanwhile, the cost-share funds and technical expertise that were provided helped them improve productivity on their farms.

Landowners who participated in the EARTH project demonstrated that voluntary efforts could achieve significant conservation goals.

Homegrown experts

The EARTH project relied heavily on finding homegrown solutions to local issues, so a project committee was created. One landowner from each of the four counties be-

came a member. The committee helped develop a cost-share program based on local needs, and goals were developed based on priorities identified with Agricultural Non Point Source (AgNPS) computer modeling.

Richard McConnell became project manager in 1997 and was instrumental in reaching the watershed goals for Brush Creek. However, he credits the committee for the overall success of the project. Committee members have the respect of their neighbors and they know the local issues. They know which projects will work best for themselves and their area.

McConnell has worked more than eight years as



Brush Creek



A Department of Conservation fisheries management biologist spreads out GeoWeb® to be used for erosion control on C. Dale Murphy's property. The material, once filled with gravel, makes an excellent livestock watering pad.

a project manager in southwest Missouri. He spent four of those years working on Brush Creek, and he has since worked on projects at Bear Creek and Hominy Creek. On all three projects, he said he has benefited from helpful landowner committees and the flexible support of numerous partners.

Little Bourbeuse/Brush Creek

The Little Bourbeuse and Brush Creek watersheds are located primarily in Crawford County, with small portions in Franklin and Gasconade counties. These two watersheds became a priority in 2002 when the Fish and Wildlife Service listed the scaleshell mussel as an endangered species in the Bourbeuse River. Native mussels are the most endangered species in the rivers and streams of Missouri.

Because Little Bourbeuse River and Brush Creek drain to the Bourbeuse River, one goal of the project was to improve their water quality.

Another team effort

The Little Bourbeuse/Brush Creek Watershed Advisory Committee was made up of five landowners. Two were chosen from the Crawford County Soil and Water Conservation District Board, three lived in the priority watersheds. The group also included technical staff

Landowner pride and willingness to demonstrate successful practices made a huge impact across the area.



Landowners and technical experts meet to discuss livestock watering systems designed to keep animals from entering streams and degrading water quality.

from the Department of Conservation and the Department of Natural Resources. The role of the committee was to put control and decision-making in the hands of the landowners. Members were asked to recommend new practices and to take the lead in seeking additional funding. Agency staffs tracked projects and funds.

Funding was provided through partners and a flexible cost-share program. Partners included the National Fish and Wildlife Foundation, U.S. Fish and Wildlife Service, Department of Conservation, county Soil and Water Conservation Districts, Farm Services Agency and Missouri Conservation Heritage Foundation. Technical assistance was also available from these agencies plus the Natural Resources Conservation Service and the Meramec Regional Planning Commission.

Just like the Brush Creek project in southwest Missouri, money and technical assistance were made available to improve farms while protecting the Little Bourbeuse/Brush Creek watersheds. There was one slight difference, though. The cost-share rate was higher than usual as an incentive for landowners to quickly obligate money for projects.

All of the money was obligated in two months, and projects were quickly completed. Even though cost-share rates were high, each contributor got more “bang for their buck” since there were multiple partners to help pay for each practice.

Getting the word out

Landowner pride and willingness to demonstrate successful practices made a huge impact across the area. For example, two farm tours were held in the Little



Little Bourbeuse



Bourbeuse watershed on the property of C. Dale and Emma Murphy. Neighbors were invited to see and hear Mr. Murphy describe practices he had used on his farm. This was a good time to socialize, talk about how to improve their farms and find out how to install GeoWeb® around livestock tanks.

Other property owners had tours of their own. When it came time to choose materials and equipment, they relied on each other. They cooperated to order livestock tanks, pipe, GeoWeb®, and erosion control fabrics to best facilitate project installations.

Local contractors learned of the watershed initiatives when they were asked for bids to install best management practices. The contractors were happy to learn that the projects were located in two small watersheds.

This meant they could contract services within a small area and would not have to move equipment as far or as often. They also served as one of the means to spread the word about available funds.

The successes of the Little Bourbeuse/Brush Creek watershed project included more than 16 miles of fence installed along streams and acres of riparian corridor planted in trees.

Watershed projects that fail to meet landowner goals tend to be unsuccessful. However, as these examples show, landowner-driven projects practically sell themselves. For more information on how to improve your local watershed, contact your regional Department of Conservation office (see page 1 for a list of regional office phone numbers). ▲



Monarch on blazing star

Habitat Hint: plant a butterfly garden

Want to double the color in your garden and add flashes of life to the scene? You can, by choosing plants that attract butterflies. Now is the perfect time to plan and plant a butterfly garden.

Butterflies are attracted to nectar-producing flowers, so these should be the foundation of your butterfly garden. Native plants are good choices, because they are adapted to Missouri soils and climate and consequently require less care than cultivated varieties.

Among the best native butterfly plants are purple coneflower, wild bergamot, rose verbena, New England aster, columbine, passionflower, blazing star, black-eyed Susan, sweet William, Joe-pye weed and lance-leaf coreopsis. Seeds and bedding plants for these wildflowers are available from native plant nurseries. To find one near you, visit www.grownative.org.

Cultivars that make good butterfly plants include yarrow, Shasta daisies, zinnias, lavender, blanket flower, forget-me-nots, foxglove, bluebells and poppies.

Choose flowers with different blooming periods to ensure that your garden remains attractive to butterflies throughout the growing season. Keep butterflies visible by placing taller plants at the back of the garden and stair-stepping shorter plants toward a bench or other favorite vantage point.

To make your property as attractive as possible to butterflies, provide food for their larvae, too. Swallowtail caterpillars dine on spicebush, sassafras and pawpaw leaves. For monarch butterflies, choose any plant in the milkweed family, which includes butterfly weed. Fritillary butterfly caterpillars like violets, while the young of buckeye butterflies are partial to snapdragons.

For more information about butterflies and how to attract them, visit www.missouriconservation.org/8274.



Native plant seminar and sale March 10 in Cape Girardeau

A native plant seminar sponsored by the Cape Girardeau Master Gardeners and the Missouri Department of Conservation will be held at the Cape Girardeau Conservation Nature Center from 8:30 a.m. until 3 p.m. March 10. The seminar will focus on the benefits of incorporating native plants in landscapes. Registration is required. For more information, call 573/290-5218. A native plant sale will be held in conjunction with the seminar and is open to the public.

Missouri's wetland work praised

Missouri conservation officials traveled to Canada in October to dedicate a Missouri-funded wetland restoration project in southwestern Manitoba. The project restored 319 wetland and grassland acres, creating summer habitat for ducks and other migratory birds that travel to and through Missouri during the fall, winter and spring. Other partners in the project included Ducks Unlimited and Ducks Unlimited-Canada, the U.S. Fish and Wildlife Service and local Canadian partners, including Manitoba Habitat Heritage Corporation, Manitoba Conservation districts and the Province of Manitoba. Missouri's share of the funding came from sales of hunting permits and the one-eighth of 1 percent conservation sales tax. Matching money came from Ducks Unlimited and the North American Wetlands Conservation Act. Pictured with a commemorative plaque at the project site are (from left): Conservation Commission Vice-Chairman Chip McGeehan, Marshfield; Commissioner Lowell Mohler, Jefferson City; Commission Chairman Steve Bradford, Cape Girardeau; and Department of Conservation





Five lucky turkey-gobble counters to receive lifetime permits

Sign up immediately to count gobbling turkeys, and you could win a lifetime hunting and fishing permit. The Department of Conservation, in partnership with the National Wild Turkey Federation, is studying spring gobbling behavior and needs 500 volunteers to sit at listening posts of their own choosing twice a week between March 15 and May 15. The study will last for five years. At the end of each year, the George Clark Memorial Chapter of the NWTF will hold a drawing to award one volunteer a Resident Lifetime Conservation Partner Permit, good for small-game hunting and fishing. The deadline for applying to take part in the project is March 10. To sign up, e-mail Jeff Beringer at Jeff.Beringer@mdc.mo.gov. Type "Gobble Study" in the subject line, and provide your name, address and county in the body of the e-mail.

Plates get new design, many new vendors

For years, Missourians have sported the Missouri Conservation Heritage Foundation's conservation license plates as a way to show their passion for wildlife. This spring, drivers can choose a new design featuring a Jim Rathert photo of morel mushrooms. This image joins the traditional lineup of conservation plates, which include a bluebird and big buck portrait.



Until now, drivers have gotten their conservation plates by making a \$25 donation to MCHF. You can still apply for one of

the three plate designs through the Department of Conservation or MCHF websites, but this spring you can also make your MCHF donation and apply for a plate at any hunting and fishing permit vendor in the state. To order online, visit one of two websites: www.mochf.org and click "License Plate," or go to www.missouriconservation.org/programs/ and click "Conservation Heritage License Plate."

The whys of prescribed fire

Setting fire to something you love seems wrong. For grassland wildlife, however, it definitely is the right thing to do. Here are a few reasons why.

Burning grassland between August and February stimulates the growth of wildflowers. This increases plant diversity, making grass stands less vulnerable to diseases or pests. Diversity provides a variety of food and cover types for wildlife. It looks prettier, too. One caution: burning at this time of year on steep slopes can lead to erosion.

Burning from February through March prepares stands of grass for interseeding with legumes and stimulates germination of legume seeds already present. Again, wildlife benefits from increased plant diversity.

Burning thick stands of cool-season grasses from April through May sets back their growth and encourages seed-producing weeds. This is a plus for wildlife, because it creates food for them and opens cover at ground level, allowing animals to move more freely. It also kills or sets back small trees and bushes, slowing the takeover by woody vegetation.

Burning warm-season grasses in April and May tends to thicken sparse stands of native grasses and kills or sets back woody vegetation. On the negative side, burning at this time of year also kills germinating annual lespedeza and ragweed.

For more information about managing your land for wildlife, visit www.missouriconservation.org/landown/.





Zebra mussels

Boaters, anglers should watch for zebra mussels

With the return of warm weather just around the corner, thousands of Missourians will be taking boats out of mothballs and preparing for fishing and pleasure boating trips. If you are among these, remember that Missouri waters still are at risk of infestation by zebra mussels. The most common way these economically and ecologically damaging pests enter new waters is by hitching a ride on boats or boat trailers.

Adult zebra mussels can live for several days out of water. Their microscopic larvae can survive for weeks in boat bilge water, live wells, engine cooling-water systems and bait buckets.

To help prevent the spread of zebra mussels:

- Inspect your boat and trailer thoroughly, and remove any trash, mussels or aquatic weeds after each outing.
- Drain water from the motor, live well, bilge and transom wells and other parts of your boat.
- Dump leftover bait in trash receptacles away from the water.
- Rinse boat, trailer and equipment (including live wells, bilge and cooling systems) thoroughly with hard spray from a garden hose, and allow to dry for at least 48 hours. If your boat or equipment was used in zebra mussel-infested waters, use a commercial car wash with hot water.
- Dry boat, motor, trailer and equipment thoroughly in the hot sun before using again.
- Learn to identify zebra mussels. Adults have a distinct triangular shell, with a striped pattern. They can reach 2 inches, but most are fingernail-sized.

To report a potential zebra mussel sighting or for additional information, contact a Department of Conservation office (see page 1 for a list of regional office phone numbers). For more information visit, www.missouriconservation.org/8260.

Birds suffer when cats roam

Could the adorable tabby swatting a ball of yarn at your feet be a killer? The answer is yes. Birds and other wildlife suffer when cats are allowed to roam outdoors.

When cats play, they really are honing predatory skills. Hunting is in their nature, so even well-fed cats look for prey. Their ability to climb makes them effective predators of cardinals, blue jays, wrens, titmice and other birds commonly seen around residential bird feeders. Putting a bell on Tabby's collar isn't much help, as birds do not associate bells with danger, and nestlings cannot flee anyway. Even declawed cats are effective hunters.

Besides killing birds and raiding their nests, free-ranging cats take a serious toll on other wildlife, from chipmunks to lizards.

Cats are happy indoors, and indoor cats live longer than rovers. Keeping cats indoors protects them from dogs, coyotes and automobiles. So, do your cat and nature a favor by keeping it inside.

If your cat is accustomed to being outdoors, help it adjust to the change by gradually increasing the length of indoor stays. For more information about cats' impact on nature and tips on how to keep cats happily indoors, visit www.abcbirds.org/cats.





Turn your pond into a crappie haven

Crappie are very popular with anglers, but few ponds or small lakes have natural populations. Crappie management can be challenging in small impoundments, but it can be done under certain conditions.

First, your pond's water must be clear most of the time. In murky ponds, too many small crappie escape bass and other sight-feeding predators, and the crappie population tends to become stunted.

Ponds also need ample rooted, underwater vegetation to be suitable for crappie. Young bass need hiding and feeding places to survive to sizes that can eat crappie and control their numbers.

Heavily fished ponds need regulation to ensure that bass are not over-fished. One approach is to release all bass between 12 and 14 or even 18 inches long. The only danger is in taking so many small bass that few make it into the protected size range.

Stocking prey fish to boost crappie growth can work, but avoid gizzard shad, which can grow numerous enough to keep bass from eating small crappie. Fathead minnows are the best choice.

You can harvest any number of crappie at any size without fear of "fishing them out." However, imposing a minimum length limit of 9 or 10 inches produces larger fish.

If your pond has an established population of bass and other fish, you may be able to get started by stocking 30 adult fish early in the spring. The alternative is to stock fingerlings at a rate of 50 to 200 per acre in June.

For advice about managing fish in ponds, contact the Missouri Department of Conservation, P.O. Box 180, Jefferson City, MO 65102-0180, phone 573/751-4115 or visit www.missouriconservation.org, and click on "Fishing."

Donation helps landowner with taxes, expands Bootheel conservation possibilities

John W. Sanders wasn't thinking primarily of conservation when he donated 118 acres in the Mississippi River bottoms in Pemiscot County to the Department of Conservation. All the same, his gift is part of exciting conservation opportunities developing around Hayti.

Sanders, 56, raises corn, soybeans and "a little cotton" for a living. His land was scattered over a wide area until he sold some property northeast of Hayti. What was left in that area was inconvenient for him to farm.

"This piece of ground was kind of out of the way," he said. "The land was still farmable. In fact, it made the best crop it ever made the last year. We just didn't take care of it like we did when we had more land up there, and WRP was offering a good price. So, I decided to see if it qualified."

The land did qualify. Sanders accepted a cash payment per acre in exchange for a permanent easement that precludes him or future owners from farming or building on enrolled acres. More important to Sanders than what WRP would not let him do on the land was what it let him do with the land.

"I'm not a hunter, so I wouldn't be hunting the ground," said Sanders. "I couldn't farm it anymore, but WRP made it possible to donate the land to the Conservation Department. That helped me on my income taxes."

Just as Sanders was pleased about saving money on taxes, conservationists in the Bootheel are excited about the possibilities the 118 acres create. The tract becomes part of a 3,500-acre complex of conservation lands that includes Black Island, DeSoto, Gayoso and Wolf Bayou conservation areas.

"This is enough acreage to re-create a small expanse of bottomland hardwood habitat," said Wildlife Division Chief David Erickson. "Waterfowl, furbearers and endangered species like the alligator snapping turtle eventually could benefit from conservation efforts in the area, especially when you view the donation in relation to other public and Wetland Reserve Program lands in the area. It will also provide a spot for the public to enjoy the outdoors."



Wolf Bayou

Outdoor Calendar

Hunting

	open	close
Coyotes	5/15/06	3/31/07
Crow	11/1/06	3/3/07
Deer		
Firearms	11/10/07	to be announced
Groundhog	5/7/07	12/15/07
Rabbits	10/1/07	2/15/08
Squirrels	5/26/07	2/15/08
Turkey		
Spring	4/16/07	5/6/07
Youth resident only	3/31/07	4/1/07
Light Goose Conservation order please see the <i>Waterfowl Hunting Digest</i> or see www.missouriconservation.org/hunt/wtrfowl/info/seasons		

Fishing

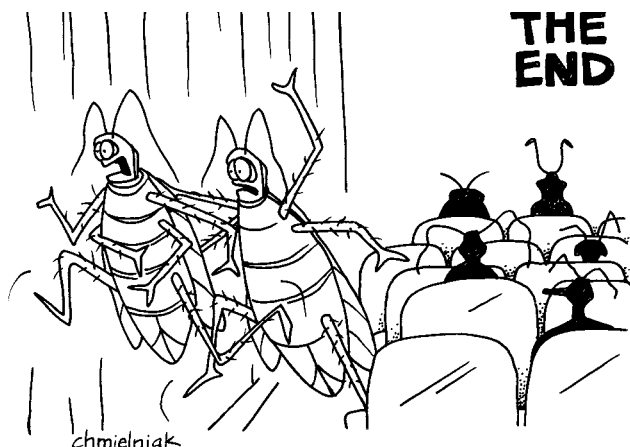
Black Bass (certain Ozark streams, see the <i>Wildlife Code</i>)		
	5/26/07	2/29/08
impoundments and other streams year-round		
Bullfrog	Sunset	Midnight
	6/30/07	10/31/07
Nongame fish snagging	3/15/07	5/15/07
Paddlefish	3/15/07	4/30/07
Paddlefish on the Mississippi River	3/15/07	5/15/07
Trout Parks	3/1/07	10/31/07

Trapping

Beaver	11/15/06	3/31/07
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For complete information about seasons, limits, methods and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, the *Fall Deer and Turkey Hunting Regulations and Information*, the *Waterfowl Hunting Digest* and the *Migratory Bird Hunting Digest*. This information is on our Web site at www.missouriconservation.org/regs/ and at permit vendors.

The Conservation Department's computerized point-of-sale system allows you to purchase or replace your permits through local vendors or by phone. The toll-free number is 800/392-4115. Allow 10 days for delivery of telephone purchases. To purchase permits online go to www.wildlifelicense.com/mo/.



Insects at the movies: The cockroaches flee as soon as the houselights go up.

Missouri certifies 1 millionth hunter education graduate

2006 was a banner year for hunter education in Missouri, with the 50th anniversary of the program and certification of the 1-millionth hunter education graduate. Sam Enright of Wildwood graduated from a class taught by volunteer Kevin Dixon at the Four Rivers Career Center in



Kevin Dixon and Sam Enright (right)

Washington. He missed just one question on the final exam. He won a Resident Lifetime Small Game Hunting Permit from the Missouri Conservation Heritage Foundation, a full set of camouflage clothing and a guided spring turkey hunt from Bass Pro Shops and a 20-gauge Browning BPS semiautomatic youth shotgun donated by the manufacturer. Enright, 13, began going on hunts with his father at the age of 7. Asked what he considers the most important thing he learned in hunter education, he said, "To always be safe."

AGENT NOTEBOOK

Finding and catching crappies in spring is a great sport, and crappie fillets sizzling in the frying pan are definitely a fine treat. Keep in mind, however, that no matter how good the fishing is, crappie are not an unlimited resource.

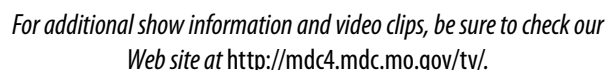
All crappies you don't intend to eat should be released unharmed immediately after they are caught. Also, those crappies under the minimum size limit must be released immediately. Be sure to check the *Wildlife Code* and area bulletin boards for minimum length restrictions, as well as creel limits.

To release crappies, first try giving them slack line. The hook may work loose while the fish is still in the water. If this doesn't work or if you need to measure a fish to see if it is legal to keep, wet your hands before handling the fish and then handle it just firmly enough to keep it under control.

Use needlenose pliers, fishing forceps or a similar tool to remove the hook. If the fish is deeply hooked, it's usually better to cut the line than to try to free the hook. The hook will dissolve or work its way out in a short time. While measuring or photographing a fish, don't let it drop to the ground or boat floor.

Release fish gently. Throwing or tossing fish back into the water is likely to stun them. Instead, place fish upright in the water and let them swim out of your hands. This will increase their chances of survival so they can be caught again by you or others. Practicing these techniques will help ensure that we will all have plenty of crappies to enjoy in the future.—Eric Smith, Camden County





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Springfield MediaCom
Sullivan Fidelity Cable
West Plains OCTV



Hairy Cap

This moss is in the genus *Polytrichum*, sometimes referred to as the hairy cap moss. *Polytrichum* mosses are the tallest growing mosses (1 to 4" tall) in North America.—Photo by Noppadol Paothong



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